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# MEASUREMENT OF PAVEMENT SMOOTHNESS FOR CONSTRUCTION QUALITY CONTROL

**Final Report**

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16. Abstract This research study of pavement smoothness measurement was conducted in order to develop and implement an improved highway smoothness construction specification on asphalt concrete pavements. Achieving a higher level of smoothness on highways during construction results in savings to the taxpayer due to reduced wear and tear on vehicles, and longer highway life. Although the current ADOT specification used for highway smoothness addresses localized smoothness problems, it is difficult to administer due to the measurement system used, and provides little impetus to the contractor to improve his quality of work with respect to overall highway smoothness.

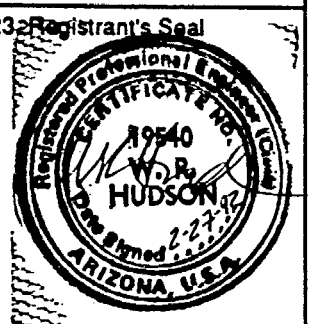
This study provided data to assist ADOT in developing a new smoothness specification that would provide incentive to contractors to construct smoother pavements and which is easier for ADOT to administer. In order to provide incentive to contractors, a pavement smoothness construction quality control draft specification and associated measurement procedure was produced.

Based upon these criteria, this study has recommended several changes to the ADOT highway smoothness specification for asphalt concrete highways:

- relative to measurement
  - a. new smoothness measurement technique
  - b. different smoothness measuring device used
- relative to the specification
  - a. accommodation of the new smoothness measurement procedure
  - b. inclusion of an incentive/penalty clause

The envisioned consequences of these changes is that the contractors would not only have the incentive to improve highway smoothness quality, but also the means, as provided by ADOT, to assess smoothness quality in a timely manner, improve that quality as needed, and then adjust normal construction procedures in order to construct smoother highways.


23. Registrant's Seal

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